REMARKS

Claims 1-2 and 5-68 are pending in the present application. Claims 1-2 and 5-68 have been examined and are rejected. In the above amendments, claims 1, 5, 6, 8, 11-15, 17-23, 25-32, 35-40, 44, 45, 50-53, 56, 57, 59, 61, 63, 64 and 66-68 have been amended. Therefore, after entry of the above amendments, claims 1-2 and 5-68 will be pending in this application. Applicant believes that the present application is now in condition for allowance, which prompt and favorable action is respectfully requested.

Rejection of Claims 1, 2 and 30 Under 35 U.S.C. §103(a)

Claims 1, 2 and 30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen *et al* (U.S. Patent No. 6,687,499) in view of Dejaco *et al* (U.S. Patent No. 5,784,406).

Claim 1 of the present application, as amended, recites:

> "A method for testing a plurality of channels associated with a forward link in a wireless data communication system, comprising:
>
> receiving a first message having included therein test settings selected for one or more channels comprising a reverse traffic channel, one or more auxiliary channels, or a combination thereof;
>
> configuring the one or more channels based on the selected test settings in the first message;
>
> receiving test packets via a forward traffic channel;
>
> transmitting loop back packets via the reverse traffic channel if indicated by the selected test settings, wherein the loop back packets comprise data for the received test packets; and
>
> transmitting signaling data via the one or more auxiliary channels if indicated by the selected test settings."

Applicant submits that claim 1 is patentable over Numminen in view of Dejaco for at least the following reasons.

First, the combination of Numminen and Dejaco does not disclose "receiving a first message having included therein test settings selected for one or more channels," as recited in claim 1. Numminen describes sending an immediate assignment message having two bits

that are set to a value of either 00 or 01 to turn on or off a test mode for a mobile station. (See column 7, lines 1-8.) Numminen also describes sending an operation start command to start testing (or to "closing the G loop") once the mobile station has been placed in the test mode. (See column 7, lines 46-51.) However, Numminen does not describe sending "test settings selected for one or more channels."

Second, the combination of Numminen and Dejaco does not disclose "configuring the one or more channels based on the selected test settings," as recited in claim 1. Rather, Numminen states "the mobile station to be tested is connected in a known manner to the test equipment and test SIM." (See column 3, lines 55-57 and also column 6, lines 45-48.) Numminen tests only a downlink data channel, which is preconfigured in a known manner between the mobile station and the test equipment. Hence, Numminen does not configure this data channel based on selected test settings.

Third, the combination of Numminen and Dejaco does not disclose "transmitting loop back packets via the reverse traffic channel if indicated by the selected test settings," as recited in claim 1. As disclosed in paragraph [1070] of the present application, the transmission of the loop back packets may be enabled or disabled. Numminen and Dejaco do not disclose this feature of claim 1.

Fourth, the combination of Numminen and Dejaco does not disclose "wherein the loop back packets comprise data for the received test packets," as recited in claim 1. Rather, Numminen states "complete statistics or information elements representing the reception error status in general are sent uplink to the test equipment." (See column 8, lines 36-39.) The mobile station thus collects statistics or general error status for the received test data and send back the statistics or general error status, instead of data for the received test data.

Fifth, the combination of Numminen and Dejaco does not disclose "transmitting signaling data via the one or more auxiliary channels if indicated by the selected test settings," as recited in claim 1. As disclosed in paragraph [1061] and Table 5 of the present application, the transmission of signaling data (e.g., on the ACK and/or DRC channel) may be enabled or disabled. Numminen and Dejaco do not disclose this feature of claim 1.

For at least the above reasons, Applicant submits that claim 1 is patentable over Numminen in view of Dejaco. Claim 2 is dependent on claim 1 and is patentable for at least the reasons noted for claim 1.

Claim 30 of the present application, as amended, recites:

> "A method for testing one or more channels in a wireless data communication system, comprising:
>
> sending a first data transmission via a first channel, wherein the first data transmission comprises test packets;
>
> receiving a second data transmission via a second channel, wherein the second data transmission includes parameter values descriptive of the test packets in the first data transmission and further comprises a record for each test packet correctly received;
>
> updating a plurality of variables based on the parameter values included in the second data transmission; and
>
> determining a packet error rate based on information included in the second data transmission.."

Applicant submits that claim 30 is patentable over Numminen in view of Dejaco for at least the following reasons.

First, the combination of Numminen and Dejaco does not disclose "the second data transmission includes parameter values descriptive of the test packets in the first data transmission," as recited in claim 30. Rather, Numminen describes sending a pseudorandom bit sequence to the mobile station on the downlink, and receiving "complete statistics or information elements representing the reception error rate status in general" from the mobile station on the uplink.

Second, the combination of Numminen and Dejaco does not disclose "the second data transmission … comprises a record for each test packet correctly received," as recited in claim 30. Numminen does not describe sending back a record of data for each individual test packet received correctly.

For at least the above reasons, Applicant submits that claim 30 is patentable over Numminen in view of Dejaco.

Accordingly, the §103(a) rejection of claims 1, 2 and 30 should be withdrawn.

Rejection of Claims 6-8 and 10 Under 35 U.S.C. §103(a)

Claims 6-8 and 10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Anderson (U.S. Publication No. 2005/0003831) and Dejaco.

Claim 6 of the present application, as amended, recites:

> "A method for testing one or more channels in a wireless data communication system, comprising:
>
> receiving a first data transmission comprising test packets via a first channel;
>
> identifying parameter values descriptive of the test packets in the first data transmission, wherein the parameter values for each test packet comprise at least one of a serving sector from which the test packet was received, a sequence number of the test packet, and a length of the test packet;
>
> forming a second data transmission with the identified parameter values for the received test packets; and
>
> transmitting the second data transmission via a second channel."

Applicant submits that claim 6 is patentable over Numminen in view of Anderson and Dejaco for at least the following reasons.

First, the combination of Numminen, Anderson and Dejaco does not disclose "identifying parameter values descriptive of the test packets in the first data transmission," as recited in claim 6 and discussed above for claims 1 and 30.

Second, the combination of Numminen, Anderson and Dejaco does not disclose "wherein the parameter values for each test packet comprise at least one of a serving sector from which the test packet was received, a sequence number of the test packet, and a length of the test packet," as recited in claim 6. The rejection indicates that Anderson discloses "length of first data length" on page 39, Table 2-6. This Table lists various Information Elements that might be sent in an Immediate Assignment message in GSM. The Immediate Assignment message is used by Numminen to turn on/off the test mode at the mobile station, and the lengths of the Information Elements in this message have no impact on performance testing. Hence, Applicant submits that the lengths of the Information Elements in the Immediate Assignment message are not equivalent to the lengths of the test packets recited in claim 6.

For at least the above reasons, Applicant submits that claim 6 is patentable over Numminen in view of Anderson and Dejaco. Claims 7, 8 and 10 are dependent on claim 6 and are patentable for at least the reasons noted for claim 6.

Accordingly, the §103(a) rejection of claims 6-8 and 10 should be withdrawn.

Rejection of Claims 29, 31, 39, 61-63, 67 and 68 Under 35 U.S.C. §103(a)

Claims 29, 31, 39, 61-63, 67 and 68 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Kobayasi *et al.* (U.S. Patent No. 6,333,932).

Claim 29 of the present application, as amended, recites:

> "A method for testing one or more channels in a wireless data communication system, comprising:
>
> receiving a plurality of test packets via a forward traffic channel;
>
> identifying a transmission source and a sequence number of each received test packet;
>
> forming a plurality of loop back packets for the plurality of received test packets, wherein each loop back packet covers zero or more test packets and includes the transmission source and the sequence number of each covered test packet; and
>
> transmitting the loop back packets via a reverse traffic channel."

Applicant submits that claim 29 is patentable over Numminen in view of Kobayasi for at least the following reasons.

First, there is no motivation or suggestion to combine Numminen and Kobayasi. Numminen describes testing of a mobile station in a wireless communication system whereas Kobayasi describes testing of wireline high speed local area network (LAN). (See column 1, lines 14-20 of Kobayasi.) These wireless and wireline networks have different characteristics and capabilities.

Second, the combination of Numminen and Kobayasi does not disclose "identifying a transmission source and a sequence number of each received test packet," as recited in claim 29. The rejection states that Kobayasi describes an L2-PDU format in FIG. 783 having a sequence number (SN). However, this section does not describe identifying a sequence number of each received test packet for testing purpose.

Third, the combination of Numminen and Kobayasi does not disclose "forming a plurality of loop back packets …, wherein each loop back packet covers zero or more test packets," as recited in claim 29.

Fourth, the combination of Numminen and Kobayasi does not disclose "each loop back packet … includes the transmission source and the sequence number of each covered test packet," as recited in claim 29. The rejection states that Kobayasi describes loopback testing of a test cell in column 97, lines 45-46. Loopback testing conventionally refers to receiving test data from a sender and sending the same or equivalent test data back to the sender, e.g., as described by Numminen in column 1, lines 35-42. Claim 29 recites sending the "the transmission source and the sequence number" for each covered test packet in the loop back packets. The loop back packets of claim 29 thus carry different information than those in conventional loopback testing.

The rejection states that "it would have been obvious … to modify Numminen's teaching by incorporating the loopback test scheme as taught by Kobayasi." If Kobayasi teaches loopback testing as indicated by the rejection, then Kobayasi teaches away from Numminen. In Numminen, the mobile station collects statistics and sends the collected statistics (instead of the received test data) back to the test equipment. Numminen hence avoids loopback testing, which is shown by arrow **104** in FIG. 1 and labeled as prior art by Numminen. This is a further reason against combining Numminen with Kobayasi.

For at least the above reasons, Applicant submits that claim 29 is patentable over Numminen in view of Kobayasi.

Independent claims 31, 39, 61, 63, 67 and 68 have each been amended to recite features similar to those noted above for claim 29. Claim 62 is dependent on claim 61. Claims 31, 39, 61-63, 67 and 68 are thus patentable over Numminen in view of Kobayasi for at least the reasons noted for claim 29.

Accordingly, the §103(a) rejection of claims 29, 31, 39, 61-63, 67 and 68 should be withdrawn.

Rejection of Claims 32-38 Under 35 U.S.C. §103(a)

Claims 32-38 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Gan *et al* (U.S. Patent No. 7,027,418) and Vimpari *et al* (U.S. Patent No. 6,169,883).

Claim 32 of the present application, as amended, recites:

> "A method for testing forward link for specific configuration of one or more auxiliary channels in a wireless data communication system, comprising:
>
> receiving a first message having included therein test settings selected for one or more auxiliary channels used to carry signaling for data transmission on the forward link;
>
> configuring each auxiliary channel based on test settings applicable to the auxiliary channel; and
>
> transmitting each configured auxiliary channel on reverse link in accordance with the applicable test settings."

Applicant submits that claim 32 is patentable over Numminen in view of Gan and Vimpari for at least the following reasons.

First, the combination of Numminen, Gan and Vimpari does not disclose "receiving … test settings selected for one or more auxiliary channels used to carry signaling …," as recited in claim 32. The rejection indicates that this feature is disclosed by Numminen in column 6, lines 54-56 and column 6, line 66 to column 7, line 8. These sections of Numminen simply describe sending an immediate assignment message to turn on/off the test mode at the mobile station. These sections do not describe sending test settings for auxiliary channels used to carry signaling. Numminen tests only data channels and not auxiliary channels.

Second, the combination of Numminen, Gan and Vimpari does not disclose "configuring each auxiliary channel based on test settings applicable to the auxiliary channel," as recited in claim 32. The rejection indicates that this feature is disclosed by Numminen in column 9, lines 14-15, which states "operation according to the H loop differs from that according to the G loop in that since channel decoding is realized before the data are sent back uplink." In Numminen, the G loop compares received test data against locally generated test data prior to channel decoding and can obtain statistics such as bit error rate. The H loop compares the received test data against the locally generated test data after channel decoding and can obtain statistics such as frame error rate. The G and H loops operate on the same received test data, albeit at different points in the receiver. Numminen does not configure the data channels differently for the G and H loops.

Third, the combination of Numminen, Gan and Vimpari does not disclose "transmitting each configured auxiliary channel on reverse link in accordance with the applicable test settings," as recited in claim 32. The rejection indicates that this feature is disclosed by Numminen in column 8, lines 4-6, which states "once the G loop has been activated the test equipment can start sending test data, i.e. periods of a pseudorandom bit sequence packed in downlink frames." Numminen thus describes sending test data on the downlink/forward link and not on the uplink/reverse link, as recited in claim 32.

For at least the above reasons, Applicant submits that claim 32 is patentable over Numminen in view of Gan and Vimpari. Claims 33-38 are dependent on claim 32 and are patentable for at least the reasons noted for claim 32.

Accordingly, the §103(a) rejection of claims 32-38 should be withdrawn.

Rejection of Claims 40-44 Under 35 U.S.C. §103(a)

Claims 40-44 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Oommen *et al.* (U.S. Patent No. 6,799,203) and Dejaco.

Claim 40 of the present application, as amended, recites:

> "A method for testing a link in a wireless data communication system, comprising:
>
> collecting a first statistic for a first parameter while in an idle state and not exchanging data via the link;
>
> collecting a second statistic for a second parameter while in a connected state and exchanging data via the link, wherein at least the first statistic or the second statistic facilitates determination of a packet error rate;
>
> receiving a first message requesting the first or second statistic; and
>
> sending a second message with the requested first or second statistic."

Applicant submits that claim 40 is patentable over Numminen in view of Oommen and Dejaco for at least the following reason. The combination of Numminen, Oommen and Dejaco does not disclose "collecting a first statistic for a first parameter while in an idle state and not exchanging data via the link," as recited in claim 40. In Numminen, the test equipment sends test data when the test mode is turned on, and the mobile stations collects

statistics based on the received test data. Numminen does not describe collecting statistics while in an idle mode and not exchanging test data.

For at least the above reason, Applicant submits that claim 40 is patentable over Numminen in view of Oommen and Dejaco. Claims 41-43 are dependent on claim 40 and are patentable for at least the reasons noted for claim 40.

Independent claim 44 recites features similar to those noted above for claim 40. Claim 44 is thus patentable over Numminen in view of Oommen and Dejaco for at least the reason noted for claim 40.

Accordingly, the §103(a) rejection of claims 40-44 should be withdrawn.

Rejection of Claims 45 and 49-56 Under 35 U.S.C. §103(a)

Claims 45 and 49-56 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Kobayasi.

Claim 45 of the present application recites:

> "A method for testing a traffic channel in a wireless data communication system, comprising:
>
> receiving a first message having included therein test settings for the traffic channel;
>
> forming a plurality of test packets for transmission on the traffic channel;
>
> selecting rates for the test packets based on a rate selection scheme in which the selected rates are varied in accordance with a set of rules for the rate selection scheme; and
>
> transmitting the test packets at the selected rates on the traffic channel."

Applicant submits that claim 45 is patentable over Numminen in view of Kobayasi for at least the following reasons.

First, there is no motivation or suggestion to combine Numminen and Kobayasi, as discussed above for claim 29.

Second, the combination of Numminen and Kobayasi does not disclose "receiving … test settings for the traffic channel," as recited in claim 45 and discussed above for claim 1.

Third, the combination of Numminen and Kobayasi does not disclose "selecting rates for the test packets … the selected rates are varied in accordance with a set of rules," as

recited in claim 45. The rejection indicates that Numminen does not explicitly teach selecting rates for test packets. None of the cited sections of Kobayasi describes selecting rates for test packets.

For at least the above reasons, Applicant submits that claim 45 is patentable over Numminen in view of Kobayasi. Claims 49-55 are dependent on claim 45 and are patentable for at least the reasons noted for claim 45.

Independent claim 56 recites features similar to those noted above for claim 45. Claim 56 is thus patentable over Numminen in view of Kobayasi for at least the reasons noted for claim 45.

Accordingly, the §103(a) rejection of claims 45 and 49-56 should be withdrawn.

Rejection of Claims 59 and 60 Under 35 U.S.C. §103(a)

Claims 59 and 60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Schmutz *et al* (U.S. Publication No. 2002/0028675).

Claim 59 of the present application, as amended, recites:

> "A method for testing a reverse traffic channel in a wireless data communication system, comprising:
>
> sending a first message having included therein test settings selected for the reverse traffic channel;
>
> receiving a plurality of test packets at a plurality of rates on the reverse traffic channel;
>
> updating a plurality of variables maintained for the plurality of rates based on the rates of the received test packets; and
>
> determining a packet error rate based on information included in the plurality of test packets."

Applicant submits that claim 59 is patentable over Numminen in view of Schmutz for at least the following reasons.

First, the combination of Numminen and Schmutz does not disclose "sending … test settings selected for the reverse traffic channel," as recited in claim 59 and discussed above for claim 1.

Second, the combination of Numminen and Schmutz does not disclose "receiving … a plurality of test packets at a plurality of rates on the reverse traffic channel," as recited in claim 59. As disclosed in paragraph [1117] of the present application, different rates may be used for the packets sent on the reverse traffic channel. The rejection indicates that this feature is disclosed by Numminen in column 9, lines 14-15, which describes testing prior to channel decoding with the G loop and after channel decoding with the H loop. This section does not describe the use of different rates for test packets.

Third, the combination of Numminen and Schmutz does not disclose "updating a plurality of variables maintained for the plurality of rates based on the rates of the received test packets," as recited in claim 59. Numminen does not describe sending test packets at different rates and hence does not update variables maintained for the different rates.

For at least the above reasons, Applicant submits that claim 59 is patentable over Numminen in view of Schmutz. Claim 60 is dependent on claim 59 and is patentable for at least the reasons noted for claim 59.

Accordingly, the §103(a) rejection of claims 59 and 60 should be withdrawn.

Rejection of Remaining Claims Under 35 U.S.C. §103(a)

Claim 5 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Funk (U.S. Patent No. 6,766,164) and Dejaco.

Independent claim 5 has been amended to recite the features noted above for claim 1. Claim 5 is patentable over Numminen in view of Funk and Dejaco for at least the reasons noted for claim 1.

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Anderson, Dejaco and Funk.

Claims 11-13, 15-20, 22-23, and 25-27 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Anderson, Dejaco, Kobayasi and Ikeda *et al.* (U.S. Patent No. 5,636,212).

Claims 14 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Anderson, Dejaco and Kobayasi.

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Anderson, Dejaco and Buchholz.

Claims 9 and 11-27 are dependent on claim 6. The combination of Numminen and Anderson does not disclose all of the elements of base claim 6, as discussed above. Hence, the combination of Numminen and Anderson is an insufficient basis for the §103(a) rejection of dependent claims 9 and 11-27. The other references do not address the deficiencies of Numminen and Anderson.

Claim 28 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Buchholz, Anderson and Dejaco.

Independent claim 28 has been amended to recite the features noted above for claim 6. Claim 28 is patentable over Numminen in view of Buchholz, Anderson and Dejaco for at least the reasons noted for claim 6.

Claims 46-48 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Kobayasi and Ikeda.

Claims 46-48 are dependent on claim 45. The combination of Numminen and Kobayasi does not disclose all of the elements of base claim 45, as discussed above. Hence, the combination of Numminen and Kobayasi is an insufficient basis for the §103(a) rejection of dependent claims 46-48. The other references do not address the deficiencies of Numminen and Kobayasi.

Claims 57, 58 and 64-66 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Numminen in view of Kobayasi and Ikeda.

Independent claims 57, 64 and 66 each recite the features noted above for claim 45. Claim 58 is dependent on claim 57, and claim 65 is dependent on claim 64. Claims 57, 58 and 64-66 are patentable over Numminen in view of Kobayasi and Ikeda for at least the reasons noted for claim 45.

Accordingly, the §103(a) rejection of claims 5, 9, 11-28, 46-48, 57, 58 and 64-66 should be withdrawn.

CONCLUSION

In light of the amendments contained herein, Applicant submits that the application is in condition for allowance, for which early action is requested.

Please charge any fees or overpayments that may be due with this response to Deposit Account No. 17-0026.

Respectfully submitted,

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